



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,761	04/08/2005	Karsten Emrich	016906-0389	6939

22428 7590 10/18/2006

FOLEY AND LARDNER LLP
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

WALBERG, TERESA J

ART UNIT	PAPER NUMBER
----------	--------------

3744

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/530,761

Applicant(s)

EMRICH ET AL.

Examiner

Teresa J. Walberg

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/8/05</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

1. The disclosure is objected to because of the following informalities: the references to specific claim numbers in the specification should be removed, since the claims are subject to being amended or renumbered.

Appropriate correction is required.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 8-12, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Iio et al (JP 7-159076).

Iio et al disclose a stacked plate heat exchanger as claimed including a multiplicity of plates (26, 27) of a first type and a second type stacked on top of one another so as to form flow passages for a first medium and a second medium (Fig. 4), the plates forming a heat exchanger block (Figs. 1 and 3), first flow passages for the first medium being closed at the peripheral side and being in fluid communication with distribution and collection passages which are arranged perpendicular to the plane of the plates and respectively open out into inlet and outlet connection pieces (4, 5) arranged on the top side (Fig. 1), the second flow passages are designed to be largely open at the end faces (Fig. 10)

and closed at the side faces (Fig. 4) , the open sides form an inlet plane and an outlet plane for the second medium (Fig. 10), inlet and outlet boxes being connected to the end faces (Fig. 26), the inlet and outlet boxes being independent structural units joined to the heat exchanger block (Fig. 26), the inlet and outlet boxes having inlet and outlet connection pieces (24, 25) that are aligned with one another (Fig. 3), the inlet and outlet boxes and the inlet and outlet connections pieces being arranged at an angle of up to 90 degrees with respect to the main direction of flow (Fig. 1), the second flow passages being adjacent to the first flow passages (Fig. 4), the distribution and collection passages are formed by passage sections which are arranged between the plates and connect the latter (Fig. 23), the passage sections are cup like elevations shaped out of the plates and are arranged outside the main direction of flow (Fig. 23), metal turbulence plates (3) are arranged in the first or second flow passages(Fig. 4), the heat exchanger being in a charge air coolant cooler or an exhaust gas coolant cooler (see English language abstract).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3744

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over lio et al (JP 7-159076) in view of Jamison et al (2002/0029872).

lio et al disclose a heat exchanger as claimed with the exception of the inlet and outlet boxes being formed by bent sheet metal strips and cover plates which protrude beyond the end faces. Jamison et al disclose plate type heat exchangers (Fig. 1) having inlet and outlet boxes (26, 28) formed by bent sheet metal strips and cover plates (36) which protrude beyond the end faces. It would have been obvious in view of Jamison et al to use inlet and outlet boxes formed by bent sheet metal strips and cover plates which protrude beyond the end faces with the plate type heat exchanger of lio et al, the motivation being to enable easier assembly of the device.

6. Claims 7 and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over lio et al (JP 7-159076) in view of lio (JP 7-159074).

lio discloses a heat exchanger as claimed with the exception of the first plate having a recess with a surrounding flat fold, the second plate having a planar region covering the fold, the plates being joined to one another in the region of the fold, the second plates having lateral flanged edges which close off the second flow passages and form the side faces, the flanged edges being angled once and forming an overlap with the flanged edge, the flanged edges being angled twice and forming a C section which bears against an adjacent plate, the plates having lateral flanged edges that are oppositely directed and arranged to bear against one another.

lio discloses plate type heat exchangers including a first plate (4) having a recess (13) with a surrounding flat fold (Fig. 4), the second plate (12) having a planar region covering the fold, the plates being joined to one another in the region of the fold (Fig. 4), the second plates having lateral flanged edges which close off the second flow passages and form the side faces (Fig. 12), the flanged edges being angled once and forming an overlap with the flanged edge (Fig. 6), the flanged edges being angled twice and forming a C section (10 in Fig. 6) which bears against an adjacent plate (4), the plates having lateral flanged edges that are oppositely directed and arranged to bear against one another (Fig. 3).

It would have been obvious in view of lio to use first plate having a recess with a surrounding flat fold, the second plate having a planar region covering the fold, the plates being joined to one another in the region of the fold, the second plates having lateral flanged edges which close off the second flow passages and form the side faces, the flanged edges being angled once and forming an overlap with the flanged edge, the flanged edges being angled twice and forming a C section which bears against an adjacent plate, the plates having lateral flanged edges that are oppositely directed and arranged to bear against one another with the plate type heat exchanger of lio et al, the motivation being to enable more secure assembly of the device.

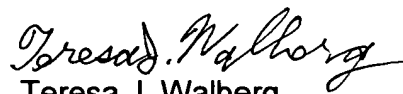
7. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Beldam et al is cited to show heat exchanger structure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Teresa J. Walberg
Primary Examiner
Art Unit 3744